

REMARKS

The above Amendments and these Remarks are submitted under 35 U.S.C. § 132 and 37 C.F.R. § 1.111 in response to the Office Action mailed July 31, 2003.

Summary of the Examiner's Action and Applicants' Response

The Examiner stated that Claims 26, 27, 53, and 54 are allowed over the prior art. The Examiner stated that Claims 5-6, 8-10, 12-17, 19-25, 32-33, 35-37, 39-44, and 46-52 were objected to, but would be allowed if rewritten to include all the limitations of the base claim and any intervening claims. The Examiner rejected Claims 1-4, 7, 11, 18, 28-31, 34, 38, and 45 under 35 U.S.C. §103(a). Applicants respectfully traverse the rejections. In this amendment, Applicants have amended Claims 1, 7, and 28 and have cancelled Claims 26, 27, 53, and 54. After entry of this Amendment, Claims 1-25, and 28-52 remain pending.

Response to Rejection of Claims 1-4, 7, 11, 18, 28-31, 34, 38, and 45 under 35 U.S.C. §103(a)

The Examiner has rejected Claims 1, 2, 28, and 29 under 35 U.S.C. §103(a) as being obvious based on Caldara, et al. (U.S. Patent No. 5,748,629) in combination with Lin (U.S. Patent No. 5,764,641). Claims 3 and 30 were rejected under 35 U.S.C. §103(a) as being obvious based on Caldara, et al. in combination with Lin and Aimoto, et al. (U.S. Patent No. 6,144,636). Claims 4, 18, 31, and 45 were rejected under 35 U.S.C. §103(a) as being obvious based on Caldara, et al. in combination with Lin and Aimoto, et al. and further in view of Chapman, et al. (U.S. Publication No. 2003/0103450). The Examiner rejected Claims 7 and 34 under 35 U.S.C. §103(a) as being obvious based on Caldara, et al. in combination with Lin, Aimoto, et al., Chapman, et al., and further in view of Vaid, et al. (U.S. Patent No. 6,292,465). Claims 11 and 38 were rejected under 35 U.S.C. §103(a) as being obvious based on Caldara, et al. in combination with Lin, Aimoto, et al. and further in view of Vaid, et al.

Regarding the Examiner's rejection of Claim 1, 2, 28, and 29, Applicants have amended Claims 1 and 28 in order to more clearly define the invention and, therefore, more clearly distinguish Caldara, et al. in combination with Lin. Claims 1 and 28, as amended, now specify that a bandwidth scheduler is located before any queue of the switch. Claims 1 and 28, as amended, also specify that

the stream of data is subjected to a decision making algorithm in the bandwidth scheduler resulting in that the stream is accepted or rejected before the stream enters any queue of the switch.

Caldera, et al. discloses an input-output queue system, wherein data is queued in the input ingress port (identified as FSPP 16), transferred to an output egress port via a switch matrix, and once again queued in the output egress port (identified as TSPP 14). (See FIGs. 1 and 6, and Col. 4, lines 8-19). Caldera, et al. also describes the system having a bandwidth arbiter, identified as element 12 in FIG. 1, that is active after the input ingress port queues and before the output queues of the egress port. More specifically, Caldera, et al. discloses that, "[t]o traverse the switch 10, a data cell 24 enters the switch through an input port 20 and is enqueued on an input queue 32 at the respective TSPP 14. The cell is then transmitted from the input queue 32 to one or more output queues 34 via the data crossbar 13." (Col. 4, lines 45-49). Caldera, et al. describes a system, therefore, having a bandwidth arbiter 12 that is active after the input queue 32 of the input port 20 and before the output queues 34 of the output egress port. In contrast, for the present invention, as claimed in Claims 1 and 28, as amended, the bandwidth scheduler is located before any queue of the switch and the stream of data is subjected to a decision making algorithm in the bandwidth scheduler resulting in that the stream is accepted or rejected before the stream enters any queue of the switch. Therefore, Caldera, et al. does not teach or suggest the method claimed in Claim 1, as amended, and the arrangement claimed in Claim 28, as amended.

One of the advantages of the present invention is that bandwidth scheduling is performed before packets arrive in any queues, such that bandwidth is distributed much earlier resulting in smaller buffer requirements and smaller buffer usage fluctuations. (Page 2, lines 20-22, and page 3, lines 17-27). For the present invention, data packets or streams eligible for dropping are pro-actively blocked before any queue in the switch. In contrast, the system disclosed in Caldera, et al. has larger and more costly buffer requirements since the system has dedicated input queues. Lin also does not teach or suggest a method or arrangement having a bandwidth scheduler located before any queue of the switch, as claimed in the method claim, Claim 1, and the arrangement claims, Claim 28. For the above reasons, Applicants respectfully submit that Claims 1 and 28 are not obvious in view of Caldera, et al. and Lin.

Applicants respectfully submit that none of the other cited references, Aimoto, et al., Chapman, et al., and Vaid, et al., teaches or suggests the method claimed in Claim 1, as amended, and the arrangement claimed in Claim 28, as amended. Applicant respectfully submits, therefore, that Claims 1 and 28 are not obvious in view of the cited references. Claims 2-25 depend from

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Claim 1 and are respectfully submitted as being non-obvious for the same reasons stated above for Claim 1. Claims 29-52 depend from Claim 28 and are respectfully submitted as being non-obvious for the same reasons stated above for Claim 28.

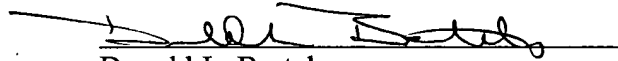
Applicants have cancelled Claims 26, 27, 53, and 54 without prejudice. Claim 7 has been amended to correct a minor typographical error.

Conclusion

For the above reasons, Applicants respectfully submit that all pending claims, Claims 1-25, and 28-52, in the present application are in condition for allowance. Such allowance is respectfully solicited.

If a telephone conference would expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (650) 739-2800.

Respectfully submitted,



Donald L. Bartels

Registration No: 28,282

COUDERT BROTHERS LLP
Two Palo Alto Square
3000 El Camino Real, Fourth Floor
Palo Alto, California 94306
Telephone: (650) 739-2800
Telefax: (650) 739-2801